

**Translation**

10/549832

**PATENT COOPERATION TREATY**

**PCT** Rec'd PCT/PTO 22 JUN 2006

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

|  |   |   |
|--|---|---|
| Applicant's or agent's file reference<br><b>E . H I . 0265 . WO</b>          | <b>FOR FURTHER ACTION</b> See Form PCT/IPEA/416                 |   |
| International application No.<br><b>PCT/EP2004/000652</b>                    | International filing date (day/month/year)<br><b>27.01.2004</b> | Priority date (day/month/year)<br><b>19.03.2003</b> |
| International Patent Classification (IPC) or national classification and IPC |   |   |
| Applicant<br><b>HIRSCHMANN ELECTRONICS GMBH &amp; CO. KG</b>                 |   |   |

|   |              |   |           |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                                     |              |   |
|---|--------------|---|-----------|---------------------|--------------------------|------------|----------|--------------------------|-------------|--|--------------------------|------------|----------------------------|-------------------------------------|-----------|---|--------------------------|------------|-------------------------|--------------------------|-------------|--|-------------------------------------|--------------|---|
| <p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>7</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> |              |   |           |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                                     |              |   |
| <p>4. This report contains indications relating to the following items:</p> <table border="0"> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>  |              | <input checked="" type="checkbox"/>   | Box No. I | Basis of the report | <input type="checkbox"/> | Box No. II | Priority | <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability | <input type="checkbox"/> | Box No. IV | Lack of unity of invention | <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | <input type="checkbox"/> | Box No. VI | Certain documents cited | <input type="checkbox"/> | Box No. VII | Certain defects in the international application | <input checked="" type="checkbox"/> | Box No. VIII | Certain observations on the international application |
| <input checked="" type="checkbox"/>   | Box No. I    | Basis of the report   |           |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                                     |              |   |
| <input type="checkbox"/>  | Box No. II   | Priority  |           |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                                     |              |   |
| <input type="checkbox"/>  | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |           |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                                     |              |   |
| <input type="checkbox"/>  | Box No. IV   | Lack of unity of invention  |           |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                                     |              |   |
| <input checked="" type="checkbox"/>   | Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |           |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                                     |              |   |
| <input type="checkbox"/>  | Box No. VI   | Certain documents cited   |           |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                                     |              |   |
| <input type="checkbox"/>  | Box No. VII  | Certain defects in the international application  |           |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                                     |              |   |
| <input checked="" type="checkbox"/>   | Box No. VIII | Certain observations on the international application   |           |                     |                          |            |          |                          |             |  |                          |            |                            |                                     |           |   |                          |            |                         |                          |             |  |                                     |              |   |

|   |                                   |
|---|-----------------------------------|
| Date of submission of the demand        | Date of completion of this report |
| Name and mailing address of the IPEA/EP | Authorized officer                |
| Facsimile No.                           | Telephone No.                     |

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/000652

Box No. I

Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-5 \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- nos. 1-6 \_\_\_\_\_ as originally filed/furnished
- nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- sheets 1/1 \_\_\_\_\_ as originally filed/furnished
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/000652

**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

|                               |        |     |     |
|-------------------------------|--------|-----|-----|
| Novelty (N)                   | Claims | 3-6 | YES |
|                               | Claims | 1-3 | NO  |
| Inventive step (IS)           | Claims |     | YES |
|                               | Claims | 1-6 | NO  |
| Industrial applicability (IA) | Claims | 1-6 | YES |
|                               | Claims |     | NO  |

## 2. Citations and explanations (Rule 70.7)

## 1. Reference is made to the following documents:

D1: EP-A-0 534 290 (SCHOELLER & CO ELEKTRONIK;  
DEGUSSA (DE)) 31 March 1993 (1993-03-31)

D2: US-A-6 166 698 (TURNBULL ROBERT R ET AL)  
26 December 2000 (2000-12-26)

D3: GB-A-2 294 363 (NIPPON ELECTRIC CO) 24 April  
1996 (1996-04-24)

D4: DE 199 41 352 A (MANNESMANN VDO AG) 1 March  
2001 (2001-03-01)

2. The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claims 1-3 lacks novelty (PCT Article 33(2)).

2.1 Document D1 discloses all the features of claim 1 (the references between parentheses refer to that document):

- high-frequency device (since the epoxide resin plates mentioned in line 14 of D1 are also used in HF technology, a circuit board

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

can also in the broadest sense be described as a 'high-frequency device'), **suitable for a vehicle antenna device for mounting on a surface of a vehicle,**

- which comprises a circuit board with printed conductors and circuit components as well as feed means such as lines and connectors or the like (see column 1, paragraph 2; note that a circuit board always comprises circuit components and lines),
- the circuit board having a recess that runs transversely to an arched surface for the approximate compensation of the arching (the recess shown in the drawing in D1 is actually suitable for compensating arching; **note that claim 1 defines neither the arched surface nor the attaching of the circuit board thereto).**

2.2 The additional features of claims 2 and 3 are contained in D1 (see column 2, lines 30-37). The subject matter of those claims thus lacks novelty.

3. The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claims 1-6 does not involve an inventive step (PCT Article 33(3)).

3.1 The subject matter of claim 6 does not involve an inventive step in relation to D1 and to common general knowledge in the art, since the attachment of an antenna amplifier circuit to a circuit board

|           |   |
|-----------|---|
| Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
|-----------|---|

is trivial.

- 3.2 In addition, the subject matter of claims 1-6 also lacks inventive step in relation to a combination of D2 and D3.

The subject matter of claim 1 differs from D2 (see figure 3 and column 4, line 48 to column 65, line 64) in that the circuit board 82 has a recess for compensating an arched surface.

The present invention can therefore be considered to address the problem of being able to attach the antenna and the circuit board to the arched surface of the windscreen.

The applicant should note that according to D2, column 6, lines 61-64, the antenna can also be attached to a non-planar substrate and that according to column 7, lines 18-24, one embodiment of D2 includes a multi-layered substrate that contains the antenna and the circuits. Document D3 (see figure 4) discloses a multi-layered substrate that has a recess which makes the substrate flexible at that point and is suitable for approximately compensating arching. It is therefore obvious to a person skilled in the art to use this partly flexible multi-layered substrate to solve the aforementioned problem.

The subject matter obtained by combining D2 and D3 would also contain all the features of dependent

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/000652

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

claims 2-6. Consequently, those claims also fail  
to involve an inventive step.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/000652

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

4. It appears essential to the definition of the invention to specify that the recess extends across the entire width of the printed-circuit board and therefore this should be included in claim 1 (PCT Article 6).
5. In order to simplify the examination of the amended application pursuant to PCT Article 34(2)(b), the applicant is requested to clearly show the amendments made, irrespective of whether this concerns additions, replacements or deletions, and to indicate the passages in the original application that support those amendments (see also PCT Rule 66.8(a)).

Said indications may be made in hand-written form on copies of the relevant parts of the original application.